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Letter to the Editor

Comparison of HPLC method and commercial ELISA assay for asymmetric dimethylarginine (ADMA) determination in human serum

Sir,

Valtonen et al. report a HPLC method for the determination of ADMA in biological samples and compare this method to a commercially available ELISA [1]. The authors find no correlation between the ADMA concentrations measured with HPLC and ELISA in plasma samples of 55 healthy subjects. However, kit controls for the ELISA were outside the given range (determined concentration: 1.174 ± 0.165 μM; given range for kit control 2: 0.6–1 μM) in two out of three ELISA kits. Thus, conclusions from this comparison should be drawn with caution. The ELISA has been extensively validated by us and others in spiked and unspiked human plasma samples [2–4]. The precision of the ELISA assay ranged between 6.1% and 7.5% in contrast to the CV reported by Valtonen et al. Our data and those of others show a correlation between ELISA and mass spectrometric methods for the determination of ADMA in human plasma [2,3]. Nevertheless, a proportional bias was observed. This points rather to a calibration disagreement than to an incomparability of data obtained from ELISA and other, i.e. mass spectrometric methods. One explanation could be matrix effects which cannot be excluded for the ELISA. However, this problem may be overcome by calibration with matrix containing samples. In conclusion, due to the increasing interest in the determination of ADMA in clinical research, more comparisons of methods are useful and more effort should be spent on the development of quality controls and inter-laboratory comparisons.

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